

The flora of Highbury Park, Burwood East, Victoria

Steve Sinclair

Arthur Rylah Institute for Environmental Research
123 Brown St Heidelberg, Victoria, 3084
Steve.sinclair@dse.vic.gov.au

Abstract

The vegetation that once covered Melbourne's eastern suburbs has largely been removed, leaving only tiny remnant fragments, most of which are modified by weeds. This report is a descriptive account of the vascular flora of a small but relatively high-quality site in East Burwood. Basic floristic information is recorded, along with a brief discussion of the variation in vegetation patterns in the immediate area. Such descriptive accounts may be useful in future restoration projects. Several taxa of particular note are discussed, including the locally uncommon Shiny Wallaby-grass *Austrodanthonia induta*, a double-flowered form of Golden Weather-grass *Hypoxis hygrometrica*, and several putative hybrids. A full species list is provided. (*The Victorian Naturalist*, 123 (2), 2006, 75-83)

Highbury Park and its surroundings

Highbury Park is a reserve in Burwood East managed by the City of Whitehorse. It contains a small area (1 ha) of remnant bushland. The surrounding area is urbanised, and, apart from a few remnant trees between nearby houses, this bushland has existed as an isolated fragment for over fifty years (A McPhee, pers. comm.). The park is located on a broad, flat ridge dividing Dandenong Ck from Gardiners Ck and Scotchmans Ck. The soil is typical of Melbourne's outer eastern suburbs, being a clay-loam derived from marine sediments of Silurian origin. It closely resembles the 'Hallam Loam' described previously by Holmes *et al.* (1940), the surface being a grey loam with occasional ironstone fragments overlying a yellowish-grey clay.

In most urban bushland remnants, ecological diversity, pattern and function have been altered because of severe weed invasion and activities such as heavy mulching and planting (McLoughlin, 1997). Highbury Park has escaped severe weed invasion, has never been heavily mulched, and only a few plants have been deliberately introduced. Consequently, it retains a relatively high diversity of understorey plants resulting from natural and continuing recruitment. Given the ongoing interest in revegetation in urban areas, the descriptive information provided here may be of some practical value in future local restoration projects. This information complements a few other reports detailing the

native vegetation of the area, most notably the paper by Salkin (1993) which documented, in detail, most areas of remnant bushland in the adjacent Waverley area.

The vegetation of Highbury Park and surrounding areas in an historical and regional context

The vegetation in Highbury Park is best classified as 'Valley Heathy Forest' (Ecological Vegetation Class (EVC) 127), as described by Oates and Taranto (2001) (Fig. 1). This EVC has largely been cleared locally (Frood, 1999), and is listed by the Victorian Department of Sustainability and Environment (DSE unpubl.) as endangered in all bioregions where it occurs except the East Gippsland Uplands (where it is vulnerable). Despite being the once-dominant vegetation over much of eastern Melbourne, relatively little easily accessible information exists on Valley Heathy Forest.

Like most vegetation units, Valley Heathy Forest encompasses considerable spatial and temporal variation. It supports a lower storey rich in both small shrubs and graminoid plants (grasses, sedges, lilies, orchids). The balance between a 'shrubby' or a 'grassy' appearance can be altered by management. In the case of Highbury Park, there is evidence that the vegetation has changed, but this record is difficult to interpret. In 1853, Bellairs noted on his survey map that the elevated



Fig. 1 Native vegetation in Highbury Park

plateau supporting Highbury Park was covered by 'heath and stunted stringybarks' (This comment is placed just south of Highbury Rd). The area would have been subject to timber cutting, grazing and maybe a change in fire regime over the 18 years between settlement and Bellairs' description. It is difficult to know whether the 'heath' was a long-standing natural feature of this area, or a then-recent response to European settlement (e.g. it may have been an 'invasion' of *Leptospermum continentale* or *Kunzea ericoides*). It is also important to note that the term 'heathy' may be used broadly to refer to 'shrubs', or more narrowly to describe certain shrubs characteristic of sandy, infertile soils. Although small shrubs are diverse and common in Valley Heathy Forest generally, species characteristic of low fertility 'heathy' vegetation in southern Australia are scarce. For example, the only abundant members of Epacridaceae are Common Heath *Epacris impressa* and Honey-pots *Acrotriche serrulata*. The main shrubby elements are instead Common Flat Pea *Platylobium obtusangulum*, Prickly Tea tree *Leptospermum conti-*

mentale and several small wattles *Acacia* spp. Presently, the vegetation at Highbury Park is very grassy, with shrubs of any kind being relatively sparse. The present 'grassy' appearance probably results from the very long absence (more than 50 years) of fire (the last substantial fire in the area was on Scotchman's Creek between Springvale Rd and Blackburn Rd in 1954-55 [A McPhee pers. comm.]), leading to reduced recruitment in some shrub species, and local extinction of some shrubs caused by previous mowing/slashing before the reserve was fenced in the early 1990s. Whatever the history of the vegetation, it is probably most sensible to view the 'natural' state of the vegetation as one of tension/balance between an understory dominated by grassy or shrubby species, largely determined by disturbance history.

Floristic variation between different areas of Valley Heathy Forest has been acknowledged and partially addressed in several previous publications (Frood, 1999; Oates and Taranto, 2001). Frood (1999) provided a provisional division of Valley Heathy Forest into 6 variants, where Highbury Park represents 'Variant 2 (plateau)', and

closely resembles variants 3 and 4. Although the surrounding area is urbanised, traces of local variation can still be discerned. For example, among the remnant trees scattered in and around the Park on the higher plateau area, Yellow Box *Eucalyptus melliodora* is completely lacking. In adjacent urban areas, however, remnant Yellow Box trees are conspicuous. The local absence of Yellow Box trees, which tend to be well formed, may well have contributed to the 'stunted' appearance noted by Bellairs (1853).

The spatial and temporal variation noted can cause Valley Heathy Forest to closely resemble several other EVCs, including Valley Grassy Forest (EVC 47) and Lowland Forest (EVC 16) and to a lesser extent Grassy Woodland (EVC 175) (Oates and Taranto, 2001). The occurrence, noted below, of Eastern Globe-pea *Sphaerolobium minus*, along with the dominance of (comparatively) 'stunted' Mealy Stringybarks in this area (Bellairs, 1853), also suggests a local resemblance to Damp Heathy Woodland (EVC 793), and is consistent with Bellair's (1853) description of the area as notably 'heathy'.

The vascular flora of Highbury Park

In addition to these broader vegetation patterns, there is small-scale variation within the reserve. In the tree layer, Messmate *Eucalyptus obliqua* dominates the southern half of the reserve, but is largely absent from the north. Narrow-leaved Peppermint *Eucalyptus radiata* is common in the north, but largely absent from the south, while Mealy Stringybark *Eucalyptus cephalocarpa* is spread throughout the reserve. In the understorey, the western third of the reserve is heavily dominated by Veined Spear-grass *Austrostipa rudis* subsp. *rudis*. Other areas are dominated by Weeping Grass *Microlaena stipoides* (particularly around trees and in disturbed areas), Soft Tussock-grass *Poa morrisii* and Kangaroo Grass *Themeda triandra*. A few poorly-drained areas differ in supporting moisture-loving plants such as Common Love-grass *Eragrostis brownii* and Small Loosestrife *Lythrum hyssopifolia*.

In comparison with many nearby reserves, the flora is rich, particularly in

the graminoid layer where 23 indigenous grass taxa occur alongside 23 other indigenous monocots. There are also notable absences. Several species which are common in comparable sites (eg, Glen Waverley railway cutting, Blackburn Lake Sanctuary, Charles St Reserve Mt Waverley, Antonio Park Mitcham, Bateman's St Wantirna) are absent. These are mostly small shrub-like plants, including Common Heath *Epacris impressa*, Common Correa *Correa reflexa*, Bitter-peas *Daviesia* spp., Common Hovea *Hovea heterophylla* and Grass Triggerplant *Stylidium graminifolium*. These absences highlight the shift, noted above, that is possible to a conspicuously 'grassy' formation when Valley Heathy Forest is mown or slashed too frequently.

Table 1 lists the vascular plant species recorded in Highbury Park. Two previous unpublished lists were consulted. In 1990, Nyssen surveyed the area, and correctly recommended that it had potential to regenerate if fenced and protected from human traffic and mowing. Also in 1990, Lorimer provided a species list to the Council. Both of these note relatively few species because of the lack of regeneration then apparent, and the fact that they were compiled as summaries for the council in a limited timeframe. All of the species recorded on these lists remain, with the exception of Running Postman *Kennedia prostrata* (Lorimer, 1990) which may still exist as soil-stored seed, and Slender Rice-flower *Pimelea linifolia* (Nyssen, 1990) which may be a misidentification of Common Rice-flower *Pimelea humilis*.

Notable Plant Taxa

Several taxa are worthy of specific comment:

Shiny Wallaby-grass Austrodanthonia induta

This grass is uncommon in the greater Melbourne area (Australian Plants Society, 2001). It is a spectacular grass, with culms in Highbury Park sometimes standing >85 cm high. In the Park, it is represented by about 20 tussocks. It also occurs nearby in Wattle Park (G. Lorimer, pers. comm.), at Cranbourne (Australian Plants Society, 2001), and commonly in Grassy Woodland

Table 1. Vascular plant species recorded in Highbury Park and Highvale Rd.. Cover values are given for species at Highbury Park, according to Gullan (1978). Species marked with a dash as a cover value are apparently extinct in Highbury Park. Germinants have been identified at Highbury Park for species marked #. *Austroanthonia* species germinate regularly; however, their specific identity is difficult to determine until flowering, and this genus has not been assessed for germination. Several indigenous species have probably been (re-) introduced or planted at Highbury Park (e.g. Yellow Box). These are marked with a 'p'. Naturalised introduced species are prefixed with an asterisk '**', and are listed after the native species under each family. Obviously planted, non-naturalised species are not listed. This list is entered as FIS quadrat E03402.

Cyperaceae		
<i>Carex breviculmis</i>	Short-stem Sedge	1#
<i>Carex inversa</i>	Knob Sedge	+ #
<i>Gahnia radula</i>	Thatch Saw-sedge	2
<i>Isolepis marginata</i>	Little Club-sedge	+ #
<i>Lepidosperma gunnii</i>	A Sword-sedge	1#
<i>Schoenus apogon</i>	Common Bog-rush	1#
* <i>Cyperus tenellus</i>	Tiny Flat-sedge	+ #
Juncaceae		
<i>Juncus bufonius</i>	Toad Rush	+ #
<i>Juncus holoschoenus</i>	Joint-leaf Rush	+ #
<i>Juncus subsecundus</i>	Finger Rush	+
<i>Juncus ?sarophorus</i>	Broom Rush	+
<i>Juncus pallidus</i>	Pale Rush	+
<i>Luzula meridionalis</i> var. <i>densiflora</i>	Common Woodrush	+ #
Liliaceae		
<i>Artthropodium strictum</i>	Chocolate Lily	1
<i>Burchardia umbellata</i>	Milkmaids	+
<i>Caesia parviflora</i> var. <i>parviflora</i>	Pale Grass-lily	+
<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily	1#
<i>Hypoxis hygrometrica</i> var. ? <i>hygrometrica</i> .	Golden Weather-glass	+
<i>Hypoxis vaginata</i> var. <i>vaginata</i>	Yellow Star	+
<i>Tricoryne elatior</i>	Yellow Rush-lily	1
<i>Wurmbea dioica</i> var. <i>dioica</i>	Early Nancy	+
* <i>Muscari armeniacum</i>	Grape Hyacinth	+
Orchidaceae		
<i>Microrhis ?unifolia</i>	Common Onion-orchid	1#
<i>Pterostylis ?pedunculata</i> ¹	Maroonhood	+
<i>Thelymitra pauciflora</i> s.l.	Slender Sun-orchid	+ #
Poaceae		
<i>Austroanthonia caespitosa</i>	Common Wallaby-grass	+
<i>Austroanthonia laevis</i>	Smooth Wallaby-grass	1
<i>Austroanthonia fulva</i>	Copper-awned Wallaby-grass	1
<i>Austroanthonia penicillata</i>	Slender Wallaby-grass	+
<i>Austroanthonia pilosa</i>	Velvet Wallaby-grass	+
<i>Austroanthonia induta</i>	Shiny Wallaby-grass	+
<i>Austroanthonia racemosa</i> var. <i>racemosa</i>	Clustered Wallaby-grass	+
<i>Austroanthonia setacea</i> subsp. <i>setacea</i>	Bristly Wallaby-grass	1
<i>Austroanthonia tenuior</i>	Purplish Wallaby-grass	+
<i>Austroanthonia hybrid</i> #1	Wallaby-grass	+
<i>Austroanthonia hybrid</i> #2	Wallaby-grass	+
<i>Austrostipa rudis</i> subsp. <i>rudis</i>	Veined Spear-grass	2#
<i>Austrostipa pubinodis</i>	Tall Spear-grass	+
<i>Devenxia quadriseta</i>	Reed Bent-grass	+
<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass	+
<i>Eragrostis brownii</i>	Common Love-grass	+
<i>Joycea pallida</i>	Silvertop Wallaby-grass	+
<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass	4#
<i>Poa ensiformis</i>	Sword Tussock-grass	+
<i>Poa labillardierei</i> var. <i>labillardierei</i>	Common Tussock-grass	+
<i>Poa morrisii</i>	Soft Tussock-grass	2#
<i>Poa tenera</i>	Slender Tussock-grass	+

¹ Rosette only, no flowers observed, leaves long-petiolate, rounded.

Table 1 continued

Poaceae continued

<i>Themeda triandra</i>	Kangaroo Grass	1#
* <i>Agrostis capillaris</i> s.l.	Brown-top Bent-grass	1
* <i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	2#
* <i>Aira</i> sp.	Hair Grass	1#
* <i>Briza maxima</i>	Large Quaking-grass	2#
* <i>Briza minor</i>	Small Quaking-grass	+#
* <i>Bromus catharticus</i>	Prairie Grass	+
* <i>Cynodon dactylon</i> var. <i>dactylon</i>	Couch	1
* <i>Dactylis glomerata</i>	Cocksfoot	+#
* <i>Danthonia decumbens</i>	Heath Grass	+
* <i>Ehrharta erecta</i> var. <i>erecta</i>	Panic Veldt-grass	+#
* <i>Festuca rubra</i>	Red Fescue	+
* <i>Holcus lanatus</i>	Yorkshire Fog	1
* <i>Poa annua</i>	Annual Meadow-grass	1#
* <i>Setaria gracilis</i> var. <i>pauciseta</i>	Slender Pigeon-grass	+
* <i>Sporobolus africanus</i>	Rat-tail Grass	+
* <i>Vulpia bromoides</i>	Squirrel-tail Fescue	+#

Xanthorrhoeaceae

<i>Lomandra filiformis</i> subsp. <i>filliformis</i>	Pale Matrush	1#
<i>Lomandra filiformis</i> subsp. <i>corriacea</i>	Pale Matrush	1#
<i>Lomandra longifolia</i> subsp. <i>longifolia</i>	Spiny-headed Matrush	+#
<i>Xanthorrhoea minor</i> subsp. <i>lutea</i>	Small Grass-Tree	+

Apiaceae

<i>Centella cordifolia</i>	Pennywort	1#
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Asteraceae

<i>Cassinia arcuata</i>	Drooping Cassinia	1#
<i>Cassinia longifolia</i>	Common Cassinia	+#
<i>Cotula australis</i>	Common Cotula	1#
<i>Euchiton ?collinus</i>	Cudweed	+#
<i>Lagenophora gracilis</i>	Slender Bottle-daisy	+
<i>Leptorhynchus tenuifolius</i>	Wiry Buttons	+
<i>Senecio hispidulus</i> subsp. <i>hispidulus</i>	Rough Fireweed	-
<i>Senecio quadridentatus</i>	Cotton Fireweed	+#
<i>Solenogyne gunnii</i>	Hairy Solenogyne	+
<i>Solenogyne dominii</i>	Smooth Solenogyne	+#
* <i>Arctotheca caledula</i>	Cape Weed	+
* <i>Lactuca serriola</i>	Prickly Lettuce	+#
* <i>Sonchus oleraceus</i>	Common Sow-thistle	+#
* <i>Soliva sessilis</i>	Jo-Jo	+
* <i>Hypochoeris radicata</i>	Flatweed (Cat's Ear)	1#

Campanulaceae

<i>Lobelia/Isotoma</i> sp.	Matted Pratia	+
<i>Wahlenbergia</i> sp.	-	+

Caryophyllaceae

* <i>Cerastium glomeratum</i>	Common Mouse-ear Chickweed	1#
* <i>Moenchia erecta</i>	Erect Chickweed	+#

Casuarinaceae

<i>Allocasuarina littoralis</i>	Black sheoak	+p
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Clusiaceae

<i>Hypericum gramineum</i>	Small St. John's Wort	+
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Convolvulaceae

<i>Dichondra repens</i>	Kidney Weed	+
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Crassulaceae

<i>Crassula decumbens</i> var. <i>decumbens</i>	Spreading Crassula	+#
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Dilleniaceae

<i>Hibbertia australis</i> s.s.	Upright Guinea-flower	+#
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Contributions

Table 1 continued

Droseraceae		
<i>Drosera peltata</i> subsp. <i>auriculata</i>	Pale Sundew	1
<i>Drosera peltata</i> subsp. <i>peltata</i>	Tall Sundew	1
<i>Drosera whittakeri</i> subsp. <i>aberrans</i>	Scented Sundew	1
Epacridaceae		
<i>Acrotriche serrulata</i>	Honey Pots	+
Euphorbiaceae		
<i>Poranthera microphylla</i>	Small Poranthera	2#
* <i>Homalanthus populifolius</i>	Bleeding Heart	+#
Fabaceae		
<i>Bossiaea prostrata</i>	Creeping Bossiaea	1#
<i>Dillwynia cinerascens</i>	Grey Parrot-pea	+#
<i>Hardenbergia violacea</i>	Purple Coral-pea	+#
<i>Indigofera australis</i>	Austral Indigo	+p
<i>Kemedia prostrata</i>	Running Postman	-
<i>Platylobium obtusangulum</i>	Common Flat-pea	2#
<i>Sphaerolobium minus</i>	Eastern Globe-pea	+
* <i>Trifolium dubium</i> .	Suckling Clover	+#
* <i>Trifolium glomeratum</i>	Cluster Clover	+
* <i>Ulex europaeus</i>	Orse (Furze)	+#
* <i>Vicia sativa</i>	Common Vetch	+#
Gentianaceae		
* <i>Centaurium erythraea</i>	Common Centaury	+#
Goodeniaceae		
<i>Goodenia ovata</i>	Hop Goodenia	1#
Haloragaceae		
<i>Gonocarpus tetragynus</i>	Common Raspswort	2#
Loranthaceae		
<i>Anyema pendula</i> subsp. <i>pendula</i>	Drooping Mistletoe	+
Lythraceae		
<i>Lythrum hyssopifolia</i>	Small Loose-strife	1#
Mimosaceae		
<i>Acacia dealbata</i>	Silver Wattle	1p
<i>Acacia melanoxylon</i>	Blackwood	2#
<i>Acacia pycnantha</i>	Golden Wattle	+
<i>Acacia myrtifolia</i>	Myrtle Wattle	-
<i>Acacia paradoxa</i>	Hedge Wattle	2#
<i>Acacia verticillata</i>	Prickly Moses	2#
Myrtaceae		
<i>Eucalyptus cephalocarpa</i>	Mealy-leaved Stringybark	2#
<i>Eucalyptus ?cephalocarpa</i> x <i>viminalis</i>	-	+
<i>Eucalyptus macrorhyncha</i>	Red Stringybark	+
<i>Eucalyptus melliodora</i>	Yellow Box	1p
<i>Eucalyptus obliqua</i>	Messmate	2#
<i>Eucalyptus radiata</i> subsp. <i>radiata</i>	Narrow-leaved Peppermint	2#
<i>Eucalyptus viminalis</i>	Manna Gum	+p
<i>Leptospermum continentale</i>	Prickly Tea Tree	1
Oxalidaceae		
<i>Oxalis ?exilis</i>	Wood-sorrel	+
Pittosporaceae		
<i>Billiardiera mutabilis</i>	Common Apple-berry	1#
<i>Bursaria spinosa</i> subsp. <i>spinosa</i> var. <i>spinosa</i>	Sweet Bursaria	1#
* <i>Pittosporum undulatum</i>	Sweet Pittosporum	+#
Plantaginaceae		
* <i>Plantago coronopus</i> subsp. <i>coronopus</i>	Buck's-horn Plantain	+#
* <i>Plantago lanceolata</i>	Ribwort	1#

Table 1 continued

Polygonaceae		
* <i>Polygonum aviculare</i> s.l.	Prostrate Knotweed	+ #
Primulaceae		
* <i>Anagallis arvensis</i> var. <i>arvensis</i>	Scarlet Pimpernel	+ #
Proteaceae		
* <i>Grevillea robusta</i>	Silky Oak	+ #
Rosaceae		
<i>Acaena novae-zelandiae</i>	Bidgee-widgee	+ #
<i>Acaena echinata</i>	Sheep's Burr	1 #
* <i>Prunus cerasifera</i>	Cherry Plum	+ #
* <i>Rubus anglocandicans</i>	Blackberry	+ #
Rubiaceae		
<i>Opercularia ovata</i>	Broad-leaf Stinkweed	1
? <i>Opercularia ovata</i> x <i>varia</i>	-	+
<i>Opercularia varia</i>	Variable Stinkweed	+ #
* <i>Coprosma repens</i>	Mirror Bush	+
Santalaceae		
<i>Exocarpos cupressiformis</i>	Cherry Ballart	+
Scrophulariaceae		
<i>Veronica gracilis</i>	Slender Speedwell	-
Thymelaeaceae		
<i>Pimelea humilis</i>	Common Rice-flower	+
? <i>Pimelea linifolia</i>	Slender Rice-flower	-
Violaceae		
<i>Viola hederacea</i> s.s.	Native violet	+ #

on the Mornington Peninsula (pers obs.). The taxonomy of this grass is confused, and it is also referred to as *Austroanthonia pro-cera* (Linder, 1997; Jacobs, 2001; Ross and Walsh, 2003)

Eucalyptus ?cephalocarpa x *viminalis*

A single tree in Highbury Park resembles *Eucalyptus cephalocarpa*, but is unusual in also having smooth, pinkish-grey ribbony bark on the branches, and slightly finer buds, fruits and leaves which are not markedly waxy. This tree is probably a hybrid involving *E. cephalocarpa* and another species, most likely *E. viminalis* (K. Rule, pers. comm.) which occurs nearby. Similar trees are present in other nearby areas. These have caused some confusion, since they closely resemble 'Scentbarks' (including the species *E. aromaphloia* (Pryor and Willis, 1954), *E. ignorabalis* (Hill and Johnson, 1991) and *E. fulgens* (Rule, 1996)) in many of their adult features. Several previous reports have noted scattered 'Scentbarks' in Melbourne's suburbs (under various specific names). Salkin (1993) notes 'Scentbarks' in Waverley, and Todd and Race (1992) record a specimen from Glen

Iris. *The Flora of Melbourne* (Australian Plants Society, 2001) records 'Scentbarks' in Wantirna, Diamond Creek, Wattle Park and Belgrave South, while Yugovic *et al.* (1990) mention similar trees as occurring in the Koonung-Mullum valleys. Seedlings germinated from the tree in Highbury Park did not resemble Scentbark seedlings (having waxy, opposite leaves for many pairs, of slightly variable proportions), prompting the hybrid explanation noted above. Yugovic *et al.* (1990) also suggest that the trees identified tentatively as '*Eucalyptus ?aromaphloia*' arose from a similar hybridisation event. Such hybridisation may account for many (or all) of the scattered 'Scentbarks' reported in Melbourne's eastern suburbs.

Hypoxis species

Highbury Park contains two *Hypoxis* species, both of which are uncommon in inner-suburban Melbourne. *Hypoxis hygrometrica* is of particular interest. The plants occurring in Highbury Park (like many populations) are difficult to place within a recognised variety, having the arrow-shaped anthers of var. *hygrometrica*, and the hairy sepals of var. *villosisepala*.

Interestingly, some plants in Highbury Park are also 'double flowered', with up to six (rather than the usual 3) petals. The extra petals develop at the expense of stamens. The phenomenon of double flowers occurs occasionally in other native plants (Woolfs, 1885; Australian Plants Society, 2001). Ewart (1931) notes that petal and sepal number may also vary in *Hypoxis* by reduction in number.

Sphaerolobium minus

This species is relatively uncommon in Melbourne (Australian Plants Society, 2001), and most commonly occurs in Damp Heathy Woodland.

Opercularia ?ovata x varia

An *Opercularia* occurs in Highbury Park that combines the features of *O. ovata* and *O. varia*, both of which are also present. It has long (>50 cm), wiry, sprawling stems which are covered to varying degrees by short, stiff hairs. The leaves are intermediate between the two species, dullish and hairy with obvious venation, and highly variable in size and shape. The flower-heads resemble *O. varia*, but have fewer flowers. Although flowering profusely, fruits have never been observed. This apparent inability to fruit, combined with the variable morphology and intermediate features, suggests a hybrid origin. Similar plants have been observed elsewhere (eg, Kinglake, Hastings), in similar areas of clay-loam soil dominated by *E. cephalocarpa* and/or *E. obliqua*. These areas may represent regions where both putative parent species commonly co-occur. If the plants are not of hybrid origin, they may represent a variant of *O. varia*.

Poa species

In Valley Heathy Forest, the most common *Poa* species is usually *Poa morrisii*, as it is in Highbury Park. Highbury Park also contains other *Poa* species, each represented by single individual plants. These three species are all widespread and common in Melbourne, but fairly unusual in Valley Heathy Forest. *Poa ensiformis* is usually associated with gullies and sheltered slopes (eg, the nearby gully of Seoteman's Creek), *Poa labillardierei* is most common on wet valley floors, or moist or sheltered depressions, while *Poa*

tenera is generally found in shaded situations, often in gullies.

Putative Wallaby-grass hybrids

Two unusual Wallaby-grasses occur at Highbury Park. The first forms a large, coarse tussock resembling *Joycea pallida*, and produces a tall, culm, bearing florets closely resembling those of *Austrodanthonia caespitosa*. These florets are almost always lacking a firm, viable grain, and it is likely that these plants are the result of hybridisation.

The second *Austrodanthonia*-like grass resembles *Joycea lepidopoda*. This species is only known in the broader Melbourne area from relatively few sites (Yugovic, 2000; Australian Plants Society, 2001). It is unique among the described Wallaby-grasses (locally including *Austrodanthonia* and *Joycea*) in possessing rhizomes. The material from Highbury Park is conspicuously rhizomatous; however, flowering has not been observed, and no definitive determination can be made. Other observers have noted similar rhizomatous Wallaby-grasses that flower infrequently (N. Walsh, G. Lorimer pers. comm.). The taxon at Highbury Park may be *J. lepidopoda*, or more likely, a hybrid involving two of the numerous Wallaby-grasses present.

Weed invasion in Highbury Park

As in most urban reserves, weed invasion is the major threat to the remnant vegetation in Highbury Park. The most serious weeds are Sweet Vernal-grass *Anthoxanthum odoratum* and Large Quaking-grass *Briza maxima*, which are actively invading undisturbed areas, and diminishing the Park's value as an example of the pre-settlement vegetation of the area. These weeds are, however, less common than they once were, as evidenced by older photographs and a 'weed map' compiled by the author in 2001 (not shown here). Improvement has been achieved through a combination of minimal hand weeding in the most intact areas, a small amount of targeted slashing, and extensive spraying, undertaken by Whitehorse City Council. The sprayed areas have generally regenerated with a dense sward of Weeping Grass where previously there was a covering of weeds and scattered native

species. There was some minimal loss of indigenous plants in these sprayed areas along with a reduction in weeds. Other unwanted plants have been effectively eliminated from the Park. While once a problem, Gorse *Ulex europaeus*, Blackberry *Rubus anglocandicans* and Sweet Pittosporum *Pittosporum undulatum* have been removed, for the time being.

Brief note on the fauna, fungi and bryophytes of the Highbury Park

The bryophytes of Highbury Park have not been surveyed in detail. However, *Thuidiopsis furfurosa* is conspicuous in the understorey across much of the park. Several other species, such as *Campylopus clavatus*, are also fairly common. Fungi are diverse and numerous, but await investigation, as do invertebrates. The vertebrate fauna of the Park is unremarkable. All species recorded are also common in the surrounding suburbs. This paucity, despite the diverse flora, is presumably due to the very small size of the reserve, its isolation, the absence of reliable water, and its proximity to a major intersection.

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